INCLUDED BUT EXCLUDED: THE USE OF MOBILE PHONES AMONG DIGITAL IMMIGRANTS

Yvette Akuorkor Afowa Ussher, Ph.D.[1]

ABSTRACT: Research on digital divide is on the ascendancy; however, there have been relatively few studies assessing digital inclusion focusing on how technological savvy was acquired by digital immigrant mobile phone users to explore the myriad opportunities of their mobile phones. Using semi-structured interviews this paper assesses digital inclusion as it explores how market women in Accra acquire technological savvy to use their mobile phones. The study findings show the importance of informal learning in the acquisition of digital literacy among digital immigrants: as majority of these women were able to use their mobile phones for the first time based on the informal teachings they received from their children. However, they appear to be digitally excluded as they under-utilized the mobile phone they own. They use their mobile phones predominantly for calling due to their low educational levels. For a fully digitized economy to be realized in Ghana, these women need adult literacy and market-based programmes that focus on developing digital literacies to enable them fully to join the digital society. Hence, there should be a call for adult education practice by promoting lifelong learning opportunities for all digitally excluded to attain 21st century skills to become part of the digital economy.

Keywords: mobile phone, market women, digital literacy, digital inclusion

Since Dr. Martin Cooper incorporated telephones into a portable mobile handset and marketed to the public (Öztaş 2015), mobile phones have become one of the most important Information and Communication Technologies (ICTs) worldwide. Mobile phone subscriptions continue to increase as there will be 710 million people joining mobile phone subscribers in the world by the end of 2025. It is therefore expected that there will be almost 6 billion mobile phone subscribers in the world by the end of 2025 (Stryjak & Sivakumaran, 2019). Mobile phones have thus become prevalent globally and they have been hailed in Africa as the answer to improving telecommunication access (Castells, 2007). Their rapid adoption has led to the inclusion of all, including the perceived 'illiterate' and semi-literate, lower income earners to become part of digital society (Velghe, 2014).

Mobile phones are no longer merely devices for sending and receiving telephone calls as they have migrated from an exclusively voice facility – first generation network (1G) and second generation (2G) networks to an increasingly multifunctional purpose – third, (3G) through to five (5G) generation networks. Chan (2013) thus writes that there are "1001 uses" for mobile phones beyond the communication function, making mobile phones valuable for both communicative and non- communicative uses. Individuals must therefore develop broader digital literacy and skills to fully utilize their phones' multiple functions (Deen-Swarray, 2016). This suggests that exploring the myriad opportunities ICTs have to offer is dependent on forms of digital literacies one possesses. This implies that those with the necessary digital literacy and skills will be able to fully utilize the functions and services their mobile phones have to offer to be digitally included.

However, studies (e.g., Deen–Swarray, 2016) have indicated that adults find it difficult to use their mobile phone effectively because about 56% of the adult population have no

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[1] University of Ghana, yaussher@ug.edu.gh,

ICT skills or have only the skills necessary to fulfill the simplest set of tasks in a technology-rich environment (OECD, 2016). This implies that one must develop broader digital literacy to fully utilize their phones' multiple functions (Deen-Swarray, 2016). Therefore, being digitally included is not influenced only by material access but also by other factors such as literacy and age. This led to an expansion of digital divide research and consequently these studies led to diverse interpretations and reconceptualization of the digital divide, generating a multiplicity of the terms such as – media literacy (Ofcom, 2018) digital participation (Dooley et al., 2016), and digital inclusion (National Digital Inclusion Alliance (NDIA), 2019) – which have similar meanings but with slightly different emphasis on issues. The concept *digital inclusion* will be used in this paper to explain the multiplicity of divides. NDIA (2019) defines digital inclusion as the activities necessary to ensure that all individuals and communities, including the most disadvantaged, have access to and use of ICTs. Digital inclusion is noted to include three broad facets: access (i.e., availability and accessibility), adoption (digital literacy), and application (work force development, education, health care and civic engagement (Digital Inclusion Survey, 2013). In agreement and in line with the Digital Inclusion Survey (2013) approach to understanding digital inclusion, this paper focuses on the second facet of digital inclusion, digital literacy (adoption) as a way to measure quality of use of digital technologies (in this case mobile phone) in assessing digital inclusion. To situate this article in its context, it is important to clearly explain digital literacy and the multiple interpretations and dimensions of the concept.

Conceptual Considerations: Digital literacy

The term digital literacy was coined in 1997 by Paul Gilster who defines digital literacy as "the ability to understand and use information in multiple formats from a wide variety of sources when it is presented via computers and, particularly, through the medium of the Internet" (Gilster, 1998: 1). Glister thus argues that digital literacy is a special kind of mindset, "about mastering ideas" (Gilster, 1997: 1)**.** Ng (2012) adds that digital literacy is developmental; that is, progressively builds on foundational and achieved skills and knowledge. In addition, Ng (2012) notes that digital literacy consists of three dimensions (a) technical, (b) cognitive, and (c) social-emotional literacies. The technical dimension of being digitally literate means possessing the technical know-how and operational skills to use ICT proficiently, thus a digitally literate should be able to operate technologies efficiently by possessing the needed skills to explore technology proficiently. The second dimension, cognitive literacy focuses on having the ability to critically search, evaluate and synthesis digital information as well as being aware of the online ethical, moral and legal issues. The last dimension social-emotional concerns the individual possessing the necessary skills to socialise properly online by being aware of issues such as netiquette and privacy.

From these dimensions outlined by Ng (2012), being digitally literate requires the development of a set of key skills that are technical, cognitive, and social-emotional. Hence developing these three dimensions should enable individuals to operation digital technology proficiently, critically search, identify, and assess information effectively,

develop competency to use the most appropriate features to his or her benefit and engage appropriately in online environments. In other words, possessing these skills will provide the opportunity to fully explore the digital technology such mobile phone owned effectively and benefit from myriad opportunities it has to offer. This research is underpinned by the aforementioned digital literacy framework of Ng (2012).

Digital literacy possession has been overlooked in the adoption of mobile phones as they have been rapidly adopted in Africa irrespective of one possessing digital literacy or not. Today the perceived illiterate and semi-literate own mobile phones and are using them. This is conspicuous in Ghana as mobile phones have reached the perceived illiterate actors, including women of the Ghanaian informal economy. Women constitute about 51 percent of Ghana's population, and illiteracy is more prevalent among women than men as there are more women (53.0%) than men (40.5%) with Primary and JH as their highest level of education. Education and literacy are closely linked in Ghana because English is the official language and the medium of instruction in Ghanaian schools. Being literate is therefore associated with one's literacy level in English, which is then also associated with formal education. Literacy rates in Ghana (total 74.1%) are much higher among men (80%) than women (68.5%), In Ghana, literacy is higher in Greater Accra (89.3%) with men (93.6%) having higher literacy rate than women. To this end a majority of Ghanaian women are found in the lower echelons of economic activity with most of their activities in the informal economy. The informal economy thus serves as a large source of income for women. Ghana's informal economy is characterized largely by self-employment with the majority operating Micro and Small-Scale Enterprises (MSEs), in form of sole proprietorships. Most of these female sole-proprietor enterprises are in the form of trade (Dzisi et al., 2008), and trade forms the largest sector of non-agricultural activities (46%) accounting for almost half of the Ghana's working population and more than half of the female working population (53%) (Budlender, 2011). Trade is considered as the dominant enterprise within Ghana's non-agricultural activities with market trade comprising the main occupation of self-employed women (Awo, 2012). Trade comprises the largest single sector (31%) of urban employment (Ghana Statistical Service, 2008). In Ghana's urban areas, market trade constituted the major source of employment for the majority (78) of women (Dunne & King, 2003).

Market women despite their low levels of education and perceived as illiterate have not been exempted from the adoption of mobile phones suggesting that they have not been left out of the digital society. Is that really the case? Are they digitally included? This makes it interesting to explore the use of mobile phones among these women and assess their extent of digital inclusion. This paper therefore focuses on this concern by drawing on Ng's (2012) three types of digital literacies--technical literacy, cognitive literacy and socio-emotional literacy--and explores how these women acquired tech-savvy skills to use their mobile phones. What are the features and services of the mobile phones that they use? Do they utilize the mobile phones owned proficiently? These are some of the questions the study seeks to explore to assess their inclusion in the digital society.

Data Collection Methods

Data for this article are derived from a broader study (Ussher, 2015), which employed a multi-sited case study that includes four major markets – Makola, Agbogbloshie, Kaneshie and Madina markets – in Accra. In Ghana, each region has its major markets. Greater Accra has about forty markets but Agbogbloshie, Kaneshie, Madina and Makola are the four well-known major markets. In Ghanaian markets, both men and women are involved in trade however women predominate in the sale of most commodities ranging from vegetables, foodstuffs, clothes, textiles etc. The exception is the sale of meat, chicken and mobile phones, where men predominate. Women in vegetable and textile trade in these four major markets were thus chosen considering the study aim of assessing how perceived illiterate users acquire digital literacy to use their mobile phones.

Although market women constitute a predefined social group in Ghana, there is no existence of a list or register of these women who own mobile phones in Accra markets. For this reason, participants were selected with a specific purpose in my mind. Following Bernard's (2017) argument that in studies where participants are hard to find, purposive and snowball sampling are most useful, they became the most practical and appropriate sampling techniques used to select these women from the four major markets for the study. Women who were engaged in perishable goods (vegetables - cabbage, carrots, lettuce, green pepper, cucumber, spring onions, tomatoes, onions, and pepper) and non-perishable goods (textiles) were interviewed. In total seventy-two (72) interviews were conducted with women from the four major markets selected. The fieldwork component of this study lasted for five months.

In the four markets chosen for the study, 29 women trading in textiles and 43 women engaged in the vegetable trade were interviewed. The number of women traders engaged in vegetables interviewed was higher because Agbogbloshie market is predominantly a vegetable market. Semi-structured interviews were conducted using an interview guide. These women were interviewed at their marketplaces as they engaged in their trading activities. The interviews conducted lasted for about forty-five minutes to an hour and a half, however, some interview sessions lasted for more than an hour and a half as there were interruptions by customers to whom the women attended. Before the commencement of interview sessions, informed consent was sought, and confidentiality was also assured.

The women were asked to choose the local languages (Ga or Twi) that they preferred and in which they felt comfortable expressing their views and experiences when interviewed. Most of the women opted for a local language (Twi or Ga) with the exception of seven traders who opted to speak English. There were 23 interviews conducted in Twi, forty-two (42) in Ga and seven (7) in English. Only in Agbogbloshie market did no woman traders opt to speak English. All interviews conducted were recorded. Some notes were taken during the interviews highlighting the key areas of significance to enable analysis of the data.

Thematic content analysis was employed to uncover themes from the interview transcripts. The analysis started by translating and transcribing all interviews into English

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with the assistance of a Ga and Twi translator. All the translated transcribed interviews were transferred to Atlas-ti software as primary documents. Codes were then generated and also transferred to Atlas-ti to facilitate the analysis process. The coding took the form of a three-stage process. First, the transcriptions were read to become familiarized with them. Secondly, there was a work through the dataset in a more detailed manner to identify how technical know-how was acquired and the features of the mobile phones use among these women. At the third stage, preliminary codes were collated and sorted into meaningful units depicting possible themes. There was a review and refinement of these themes and then extracts selected from the texts associated with these themes.

Findings

Demographic Background of Participants

Age

The interactions with these market women show that most of these women were not born in the era of digital technologies as a majority of them were at least forty years of age. In Ghana, mobile phones were introduced in the 1990s with the majority acquiring mobile phones late 2003 and early 2004 and are therefore now getting the knowledge and adapting to these new technologies.

Education

The study findings also show that a majority (42 out of 72) of the market women have basic education (i.e., Primary, Middle School and JHS are considered basic education in Ghana). Only a little under one third of the women traders have secondary or higher education and about one sixth of them do not have any formal education (never attended or dropped out), a reflection of educational disparities among these women.

Mobile Phone Acquisition

The access to mobile phones among these women was mainly due to gifts received from family members. These women owning mobile phones show their inclusion in the digital society as the initial debate of measuring one's digital inclusion and not being left behind focused on access. This could be the reason why children and husbands bought mobile phones for their mothers/wives when introduced in Ghana.

The rest of the participants (27 out of 72) bought their mobile phones themselves and the choice to buy a particular model and brand was not based on the mobile services associated with the model - the choice was essentially based on how attractive the mobile handset was and on how expensive it was. Those who bought their mobile phones themselves argued that mobile phones that cost hundred Ghana cedis (GHC 100) and more were costly and therefore they claimed to trust such mobile handsets to be durable. This point was reiterated by numerous women (24 out of 27 traders) who purchased their mobile phones themselves. A tomato trader in Kaneshie market reinforces this position and states that:

> You know we market women prefer to buy the [most] expensive and latest mobile phone even though we do not have adequate knowledge [digital literacy] about how to use it. When I went to buy this one, I said I wanted the one that is very expensive and the latest model, I was told this one is 100 Ghana cedis and is expensive. I am also told it the latest model, so I bought it. We are not really concerned about how to use all the features and applications on our mobile phones, so far as we can make call[s] it is fine (interview # 12).

This finding suggests that most participants are not concerned about how much knowledge they have to explore the myriad opportunities of mobile phones bought. They acquired mobile phones because they realised the necessity to become part of the digital era reflecting that mobile phones though have become prevalent, among these women, they are still status symbols.

Technical Literacy Acquisition

Call Making

In exploring how these women acquire technical know-how to use their mobile phones, it was noted that informal education/learning played a vital role. To use their mobile phones for the first time those who bought the phones themselves (27 out of 72) learnt how to use their mobile phones all by themselves as they follow the instructions on the phone manual/menu. These women have secondary or higher education than their other trading colleagues. These traders being able to learn how to use their mobile phones all by themselves shows that they can read in English. This is because mobile phone manuals are in a variety of international languages for users to choose the language with which they are conversant. English being the official language in Ghana and the predominant means of social interaction, mobile phones brought to Ghana have language features set to English. In choosing to read the manual of your mobile phone in Ghana, the English language is the option chosen.

The vital role of informal learning to acquire technical literacy was also reflected among many of the women traders (33 out of 45) as they were taught how to use their mobile phones for the first time by their children:

> My third born child taught me how to answer a call, check on a missed call and make a call. I did not go to school to a higher level, so I was not able to use it easily at first (interview # 38).

Children taught their mothers how to differentiate between the green and the red button on 2G (and 2.5G, 3G) keypads to make calls all by themselves. This is because the keypad of 2G (and sometimes 2.5G, 3G) mobile phones has green and red key icons which are used to make and receive calls, and these are easily identifiable. The green and red icons on the keypad are not combined with any other letters or numbers, therefore easy to use when taught. The green and red keypad is one of the main interfaces of most 2G mobile phones: the type of mobile service that predominates among the participants. 3G mobile phones have complicated interfaces: they sometimes have the keypad with the red and green button keypads, but most have more complex visual interfaces, often with touch screens. 3G mobile phones with touch screens are not common among market

women as they claimed that they cannot easily operate these mobile phones, as the keypad is hidden or embedded. From this finding it appears that the complex nature of keypads or mobile phone interfaces, apart from educational status and age, play a significant role in acquiring technical literacy in assessing of mobile features and services.

The acquisition of technical literacy was also developed as informal training was also received from husbands and younger siblings. Less than a third of the women were taught how to use their mobile phones by their husbands. A little less than one tenth also learnt how to make calls from their siblings and from mobile phone traders or the shop owners from whom they bought their mobile phones:

> (*She laughed*) my younger sister taught me how to make call the very first time, she has a higher education than I do (interview# 26).

> The person I bought the mobile phone from taught me how to receive and also make calls (interview# 49).

All the participants who receive the informal training from their husbands and or younger sibling argue that they gain such education from them because they have higher education compared to what they have. The need for such informal training from husbands and younger siblings to use the basic calling function of their mobile phones for the very first time reflects the exclusion of these women.

Over the years the market women interviewed have developed technical literacy as they demonstrated their capabilities to make calls to me during the interviews:

> … my children and sometimes my grandchildren teach me how to make the call, if I want to make a call and they are around, I call them to assist me to search for the contact's name and then they dial or make the call for me. I can make calls now (interview # 20).

It is clear that the technical literacy levels of these women is low and, given that most of them were born before the era of the new digital technologies, they face challenges in using mobile technologies and services available on their mobile phones owned. However, via the informal training received from their children to use the basic function, making calls, they have developed their digital literacies to become digital immigrants (Zubieta, 2010). We may therefore describe these children of women as 'digital natives' and the market women as 'digital immigrants' (Zubieta, 2010). This study finding reflects intergenerational differences in the use digital technologies as well as obtaining of digital inclusion status due to developing technical literacy via informal learning practices.

Texting

Texting, another basic function of the mobile phone requires technical literacy. Texting was not entirely out of the domain of these women as a small proportion of women (19) interviewed can send and reply to texts. They also did so by learning informally as they follow the guidelines given by their children, for instance by differentiating between the

alphabets and numerals on their keypads. From this finding, using mobile phone services such as texting could be due to the complicated nature of mobile interfaces (i.e., 2G owned by the majority women) coupled with the complex task of navigating such complicated keypads. The finding may also suggest that the type of contacts one has influences one to be engaged in SMS/texting as contacts should be able to read or decipher messages sent to them and to reply.

Loading Airtime

Women developing their technical literacy via informal learning were also noted in the context of loading airtime onto mobile phones. Here informal training was also received from children and husbands (in some cases younger siblings) in the loading of airtime for the very first time. All the women who receive such teachings from their husbands (or younger siblings) opined that their educational level is higher than them, the market women, reflecting the reason why they can grant them such support. The differences in education (coupled with the complex mobile interfaces) are what have led to the receiving of informal training among these women. Nonetheless, based on informal learning practices from children and husbands or younger siblings the majority of market women (30 out of 45) appear to have developed the technical literacy to navigate their complex mobile interfaces to load airtime on their mobile phones.

Storing Contacts/Phonebook

With reference to storing contact numbers and names, adequate technological know-how has not been attained by the majority (61%) of the women interviewed because they find it a bit complicated. Some of the women explained that they have been taught several times by their children how to store their contact numbers and names but were still unable to do so. They usually make the one who wants his or her number to be stored dial the number on their mobile phone and then they beep the person once (flash) which enables the number to be stored automatically in their dialled numbers menu. They then keep the last two digits of that person's number and name in memory and when they go back home, the women ask their children (or grandchildren) to store it in their contacts or phonebook. Another way is that they write the number down in a book and when they are home, ask their children (or grandchildren) to store it into their contacts or phonebook:

> My children store the numbers on my mobile phone for me, I do not. When someone gives me her number, I write it down and when I get home, I call my son, hey 'Junior' this is one of my customer's number and she is called so and so, and then I give it to him and he stores it. Or I call my daughter to do it (interview # 7).

Informal learning was noted among other market women as they receive training from their husbands to store their contact numbers for them. Attaining technical literacy is therefore developed among these market women based on knowledge they received from informal education via their social relations: their children, husbands and younger siblings. Even though the majority of the women interviewed cannot store their contact

numbers all by themselves, they can easily identify their contact menu or phonebook to make calls. Some of them are able to keep in memory the last two digits of their contact numbers which enable them to easily identify who to call when they scroll through their contact list or who is calling whenever they receive a call. The ability to keep numbers in memory explains the good knowledge women traders have in numbers or figures, which suggests that these traders are not entirely illiterates as they have understanding of numbers that enable them to keep their own records.

It was, however, realized that those women (27 out of 72) who learnt how to use their mobile phones all by themselves can easily make calls on their own, store their contact numbers and load credits on their mobile phones. This suggests that learning on one's own paves the way for one to acquire more knowledge and hence gain technological know-how in using a technology. The finding in relation to these women suggests that educational status play an important role in the using of mobile phones.

Other Features of the Mobile Phone Used

Alarms and clocks

With the development of technical literacy via informal learning among these women, they acknowledged that beyond their call logs or phonebooks, they use the calculators, alarms and clocks for their trading activities: They were able to to use these features based on the informal learning they did. They received informal teaching from their children in particular as they guide them to set the alarms and clocks on their mobile phones. The alarms were very vital for these women as it helps them to wake up on time to meet any schedule meetings to purchase their goods.

Calculators and Camera

The calculator feature of the mobile phones was also not ignored as they used them to sum up the prices of goods bought. A majority of them argued that calculators bought needed battery which does not last longer and sometimes such calculators are not durable. Hence, they prefer to use their mobile phone calculators, and this was made possible as their children taught them how to navigate through the menu and easily locate their calculators, some even have them as short cuts icons on their phone interfaces. The camera feature of the mobile phones among these women was not exempted. They also use these cameras often during functions such as marriage and naming ceremonies. They use these cameras to enable them to snap photos to use as wallpaper on their phones. They also argued that being able to take a selfie makes them feel proud to become part of the digital era.

Discussion and Conclusion

The study findings show that utilisation and enjoyment of all the mobile features and services one's mobile phone could offer are determined by having adequate knowledge and various forms of digital literacies. The inability to enjoy the full benefits from one's mobile phones compared to others who enjoy the full benefits shows a disparity--that is, inequality in use, therefore being digitally excluded. Digital literacies can be developed

outside the classroom, that is through informal learning (Ito et al., 2008) to utilize digital technologies such as mobile phones. Mobile phones have been noted as user friendly and require little or no special training in employing their basic functions (James, 2011). This appears to be so as these women were able to enjoy the basic functions of their mobile phones due to the informal training they received from others – and particularly their children. The first dimension of Ng (2012) digital literacy, technical literacy has been developed by these women, thus being digitally included with respect to having mobile phones and using the basic function, calling. They find it easier to make and receive calls because they are able to identify and differentiate between the green and red icons on the keypad of their complicated 2G mobile phone interfaces; they do this based on the teachings they received from their children.

Despite these traders owing mobile phones, it is evident that inequality exists among them as only a few of these women are able to go beyond the voice features and navigate the keypads of their mobile phone interfaces to text. While these women are taught by their children how to send texts, a majority of them find it difficult and complicated due to a lack of technical literacy. Those who are able to text are younger and have technical literacy owing to having secondary or higher formal education. Hence a 'usage divide' has been created due to education and intergenerational differences associated with using ICTs. It is therefore clear that a lack of higher education attainment can restrict the quality of use of ICTS. Those with higher educational achievements will benefit more by accessing mobile phone applications such as mobile banking and will be able to browse for information; store and process data; unlike the one with a low educational attainment because such applications involve cognitive (information) literacy. These market women appear not to be fully aware, beyond calling, of the services they might gain from mobile phones. Mobile services such as mobile money services and internet domain benefits (in Ghana) would be appreciated by these women when educated on the various literacies they lack. They will then tend to appreciate and purchase/own smartphones (3G and 4G networks) to utilise the myriad opportunities these smartphones have to offer to the development of their economic activities and lives.

Education, age and the forms of digital literacies are not the only associated factors that limit the use of mobile phones beyond calling, the perceived ease of use its features and application is attributed to the type of handset model owned. The complex nature of mobile interfaces (e.g., 2G) loaded to accommodate all the available alphabets, letters, numbers and punctuations requiring multiple key presses and taps to use applications could restrict the full utilization of mobile features and services such as SMS and Facebooking. This therefore suggests that one needs technical and cognitive literacies to be able to navigate the keypads to enter text on such mobile phones. Mobile phone manufacturers/designers therefore need to take cognizance of factors such as education, age and digital literacies as they develop mobile phone interfaces.

Technical literacy development associated with informal learning was also evident in the use of another basic function of mobile phones: the storing of contact numbers onto one's mobile phone. Majority of women in this study lack the technical literacy required to navigate their mobile phone interfaces and store their contact numbers on their mobile

phones; these numbers are stored into their contacts or phonebooks by their children (or grandchildren), a reflection of digital exclusion.

It is evident that even though most the women traders are unable to store their contacts numbers all by themselves, they do not lack absolute knowledge in using their mobile phones. This is because they are now able to make calls on their own and use their phonebooks, alarms, calculators, cameras as well as load airtime based on the informal trainings received from children, husbands, and siblings. Informal learning should therefore not be ignored in the developing of digital literacy as in recent times, digital technologies such as the mobile phones have been adopted by all including perceived illiterates.

Many of the traders (being at least forty years of age) receiving technical support from their children in using their mobile phones, shows that age or intergenerational differences appear to be associated with the quality of use of mobile phones. All the participants who receive the support of husbands and/ or siblings argued that they are able to gain this support because of a family member's higher education. Whereas those with secondary or higher education and younger do not need the support of others, a reflection of digital exclusion of other market women without higher education. The data presented here, therefore, support other findings (e.g. Basu & Chakraborty, 2011) that age and educational differences are closely associated with the quality of use of mobile phones features and services.

The finding that a majority of the women depend on the informal training from their children, shows that age differences appear to be associated with acquiring the different levels of digital literacies required to use one's mobile phone. It is argued that young people who grow up in the era of mobile phones and associated ICTs are said to be 'digital natives' because they are familiar with these technologies and, seemingly, are able to effortlessly adopt and adapt to changes in the digital landscape (Prensky, 2001). These children of the women are born in the era of digital technologies and grew up with them – hence their familiarity with mobile phones. It is worth noting that tech- savvy could be facilitated by children. Such technical literacy provided by the children has given these women an image and a feeling of sense of belongingness in the digital era. They have acquired to an extent digital inclusion status; however, they are still digitally excluded as they have not gone beyond the technical literacy dimension, to develop their cognitive and socio-economic literacies. Thus, they lack the full abilities, skills and knowledge to use ICTs to fully participate in the digital society.

The paper positions itself in the ICT4D policy and reflects on the importance of higher education, digital literacies and informal learning and their implication to use digital technologies. Government thus needs to invest in digital literacies by establishing market-based programmes as well as adult literacy programmes to enable the full utilization of mobile phones. In addition, the teaching of ICTs from the basic education level through to tertiary level as well as higher formal education particularly for girls/women should be upheld. Such attainment of ICT knowledge will help in achieving the SDG goal 10: inequality reduction associated with ICT use.

This study has contributed to knowledge of the various forms of literacies associated with quality of use of ICTs as the dimensions of digital inclusion, which is important for understanding the use of mobile phones among market women in Accra. The study has also assessed the role of education and age as well as informal learning in exploring the quality of use of mobile phone to get the deeper understanding in redefining digital inclusion. In addition, a contribution has been made to research on the characteristics of market women in Accra informal economy more specifically on their educational, age and extent of inclusion in the digital society.

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